

NASA TECH BRIEF

Manned Spacecraft Center



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Film Holder for Curved Vacuum Platen

The problem:

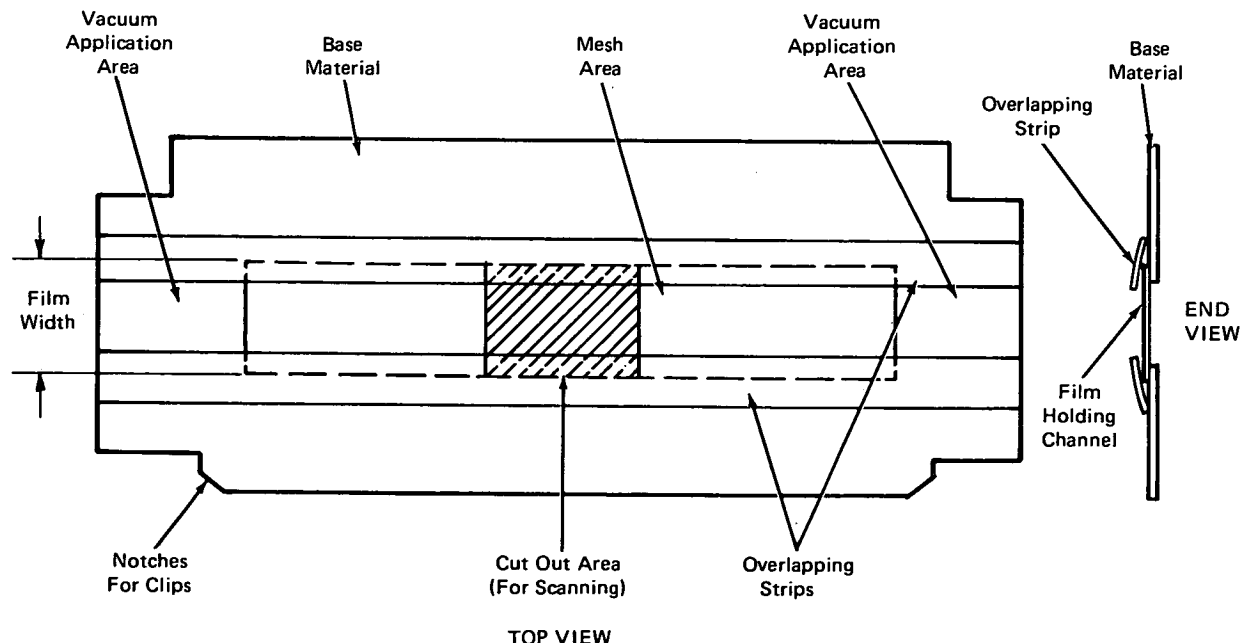
Vacuum hold-down for film and paper is used in cameras, photographic printing frames, and recorders. Older methods for holding the cut film against either flat or curved platens have used a peripheral vacuum groove which was slightly smaller than the film perimeter. This configuration required changes in platens for different film sizes and was thus subject to frequent platen alignment.

The solution:

A film holder was developed that is capable of supporting film of various widths against 25.4 by 25.4 cm (10-by-10 in) cylindrically curved platens. The holder will accept continuous roll and cut film, requires no platen change, and with minor modifications can be used with flat platens.

How it's done:

The construction of the film holder is shown in the figure. Its base is a thin sheet of plastic about 0.178 mm or 0.007 inch thick. The holder covers the platen assembly and is patterned to be held in place longitudinally and laterally by the clips. An opening, as wide as the film to be held and long enough to extend partially across the vacuum hole areas on either side of the platen, is cut in the center of the holder assembly. This opening is then covered with a fine nylon mesh which extends to the full length of the holder. Such an arrangement is useful only for record applications. However, for scan only or both scan and record, the center of the mesh section is cut out in the actual scanning area.



(continued overleaf)

In either case, strips of thin plastic are laid full length along the edges of the open area to form a channel for holding and guiding the film.

In use, film of the appropriate size is slid into the holder with the latter locked in place on the platen. A vacuum applied to the platen permeates the nylon mesh area pulling the film down into a firm contact with the mesh. By removal of the hold-down vacuum or by application of pressure behind the film, the film can be pulled into another area of interest.

Note:

Requests for further information may be directed to:
Technology Utilization Officer
Manned Spacecraft Center
Code JM7
Houston, Texas 77058
Reference: TSP72-10542

Patent status:

NASA has decided not to apply for a patent.

Source: A. Maciel, Jr. and C. E. Hauber of
Singer Corp.
under contract to
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